

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

HAYNES INTERNATIONAL, INC.,)
)
Plaintiff,) Civil Action No. 04-197(E)
)
v.) JURY TRIAL DEMANDED
)
ELECTRALLOY, a Division of G.O.)
CARLSON, INC.,) Judge Cohill
)
Defendant.)

**DEFENDANT'S OPPOSING APPENDIX OF EXHIBITS IN OPPOSITION TO
PLAINTIFF'S MOTION FOR PARTIAL SUMMARY JUDGMENT**

EXHIBIT DOCUMENT

A Declaration of Eugene Hynes

EXHIBIT A

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

HAYNES INTERNATIONAL, INC.,)	
a Delaware corporation)	
)	
Plaintiff,)	Civil Action No. 04-197(E)
)	
v.)	JURY TRIAL DEMANDED
)	
ELECTRALLOY, a Division of G.O.)	
CARLSON, INC.,)	Judge Cohill
a Pennsylvania corporation)	
)	
Defendant.)	

DECLARATION OF EUGENE HYNES

I, Eugene Hynes, declare as follows:

1. I am a United States citizen and resident of Pennsylvania.
2. I am Electralloy's Senior Programmer, and have worked for Electralloy since 1976. As a part of my job responsibilities, I am responsible for the content and maintenance of Electralloy's website (www.electralloy.com). I personally am responsible for loading content onto Electralloy's website and updating the site.
3. Within the body of the "Capabilities" section of Electralloy's website is a two-page sheet listing Electralloy's "Alloys and Capabilities." See pp. 2 and 3 from Electralloy's website, attached hereto at Tab 1. This two-page capabilities sheet is dated August 28, 2001. See same pages. Under the Electrode Slag Remelt (ESR) section of this capabilities sheet, "EC22" is listed as one of the alloys Electralloy is capable of producing. See p. 3 of Tab 1. Those viewing Electralloy's website may also download a PDF version of the same two-page capabilities sheet. See pp. 2-3 of Tab 1.
4. The content of the "Capabilities" section of Electralloy's website, including the two-page capabilities sheet referencing "EC22" was last updated April 03, 2003. See p. 4 at Tab 1 indicating when the website section was last modified.
5. Whenever I update portions of Electralloy's website, I also update the information at the bottom of the section indicating the last modification of that portion of the website.
6. Electralloy's website also contains a section entitled, "Data Bulletins." Within this section viewers may click on downloadable, PDF versions of various Electralloy bulletins. See pp. 1-2 attached hereto at Tab 2.

7. One of the bulletins Electralloy has posted on its website is entitled, "Nickel-Based High Performance Alloy EC22 Product Data Bulletin." See same at p. 1.
8. This "Nickel-Based High Performance Alloy EC22 Product Data Bulletin" is dated August 1, 2003, and provides specifications regarding Electralloy's EC22. See Bulletin, at pp. 3 and 4 of Tab 2, and p. 4 for date of Bulletin.
9. The Data Bulletins section of Electralloy's website was last updated on August 4, 2003, therefore, the EC22 product bulletin has been available on Electralloy's website at least since that date. See p. 2 of Tab 2 showing date of last modification of the Data Bulletins section of Electralloy's website.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 6 day of October 2005.

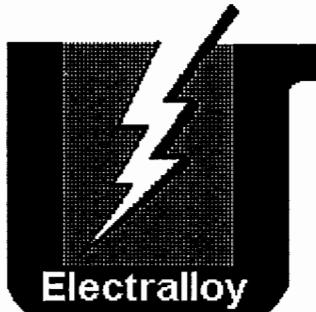
Eugene Hynes
EUGENE HYNES

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 6 day of October 2005.

Eugene Hynes
EUGENE HYNES

TAB 1



Capabilities

[Home] [About] [Products] [Services]

!!!!!! Electralloy is the exclusive

Electralloy specializes in the manufacture of Nickel Alloys, Copper-Nickel, Stainless Steel, High Temperature and Tool Steel Ingot, Billet, Bar and Remelt Pigs. Electralloy utilizes its heat size of 40,000# to 60,000# and production capability to produce tailored grades and sizes that larger mills frequently ignore.

A wide variety of mold sizes permit the production of ingots for wrought alloys from 13 sq. x 1,900# to 63" round x 60,000# and electrodes from 14" round x 4,800# to 39" round x 60,000#. Remelt material is produced in either 15# pigs or cut weight mulits from round electrodes molds.

The grades that Electralloy currently produces include: Ni-Al Bronzes, Nickel Alloys, Copper/Nickel Alloys, the entire range of austenitic, martensitic and ferritic stainless steels, duplex stainless steels, precipitation hardened stainless steel and Nitronic Family of steels.

Electralloy has an extensive inventory of stainless steel bar, billet and remelt pigs. Billet produced is supplied from 4" RCS to 34" RCS while bar is stocked in ranges from 5" round through 24" round. Free machining 303, 304/304L, 316/316L and 416 bars and billets are produced and marketed under the SPEED-E-MAC® tradename at no additional cost.

Electralloy offers a complete custom melting service for the reclamation of customers' in-house and purchased scrap. The resultant material can be made to a commercial specification or to special alloy chemistries.

ELECTRALLOY

G. O. CARLSON Inc. Co.



AIRMELT INGOT - BAR - BILLET ALLOYS AND CAPABILITIES

AUSTENITIC STAINLESS STEELS

303	310/310S	330	Nitronic® 30
304/304L	316/316L	347	Nitronic® 32
304/304H	316N	347/347H	Nitronic® 33
304N	317L	904L	Nitronic® 40
308L	321	C20Plus	Nitronic® 50
309/309S	321/321H	F-44	Nitronic® 60

PRECIPITATION HARDENING

15-5	17-4	405
16-5	EC450	430

DUPLEX

2205	403	440C
F-55 = UNS S32760	410	EC125
EC255= UNS S32550	416	F6NM
EC25540 (EC255 High Preñ.)	420	P9
	422	13Cr4Ni

NICKEL ALLOYS

200	400	718
201	600	800
276	601	800H
	625	HX

LOW EXPANSION ALLOYS

COPPER NICKEL	E-38	E-42	TOOL STEELS
C71500 (70/30 Cu-Ni)			A-2 D-2 O-1
C70600 (80/10 Cu-Ni)			A-8 H-11 P-1
NI Al Bronze	STRUCTURAL	HY80 HY100	H-13

Alloys not listed can be made by request.

PRODUCTION CAPABILITIES

Pigs	15# Pigs - 45,000# Heat
Ingots	13" Sq. to 63" Fluted Round - 1900# to 62,000#
Bars	4" Round to 26" Round
Billet	4" Round or RCS to 34" RCS
Slabs	4" x 15" to 10" x 42"
Nitronic Coil Rod	.219" RD. to 1" RD. Nitronic 50W & 60W Weld Wire

Contact Electralloy Sales:

Telephone #: 800-459-7273 or 814-678-4172 Fax #: 814-678-4172 or 814-877-1342

e-mail: SALES@ELECTRALLOY.com Web Site: www.ELECTRALLOY.com

175 Main St. - Oil City, PA 16301

Nitronic® = Registered Trademark of AK Steel

8/28/2001

[Click Here To View or Download the Airmelt Capabilities In PDF Format](#)

ELECTRALLOY

a G. O. CARLSON Inc. Co.



RE MELT INGOT - BAR - BILLET ALLOYS AND CAPABILITIES

VACUUM ARC REMELT (VAR)

304/304L	15-5	9310
316/316L	17-4	H-11
403	A286	H-13
410	718	D6AC
410Cb	300 M	Jethite M152
422	4330	HP 9-4-20
440C	4340	HP 9-4-30
EC450	321	625

VIM / VAR

13-8	625
718	A286
455	Managing 200,250 & 300

ELECTRODE SLAG REMELT (ESR)

304/304L	600	EC256	N-155
316/316L	600 Cb	EC25540	188
318LH	617	F-55	L605
321	625	HX	H13
347	680	HG3	Nitronics®
403/410	706	C276	F44
410Cb	718	EC22	F6NM
420	825	15-5	EC400
422	C20+	17-4	ECK500
Greek Ascoloy	926 Mo	EC450	NI Al Bronze

Alloys not listed can be made by request.

PRODUCTION CAPABILITIES

Bars .5" Rd. to 3.5" Rd. and 4" Rd. to 26" Rd.
Billet 4" Round or RCS to 34" RCS
Slabs 4" x 15" to 10" x 42"
Ingots VAR Crucibles 20, 24, 30, 33, 40" Rd.
Ingots ESR Crucibles 12 x 42, 20", 30", 36", 40" Rd.

Contact Electralloy Sales:

Telephone: 800-458-7273 or 814-678-4100 Fax: 814-678-4172 or 814-677-1342

e-mail: SALES@ELECTRALLOY.com

Web Site: www.ELECTRALLOY.com

175 Main St. - Oil City, PA 16301

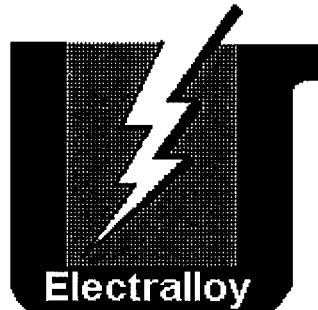
Nitronic® = Registered Trademark of AK Steel

8/26/2001

[Click Here To View or Download the Remelt Capabilities In PDF Format](#)

Send mail to bhynes@electralloy.com with questions or comments about this web site.
Last modified: April 03, 2003

TAB 2



Data Bulletins



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[Click Here To View or Download the Nitronic 50 Product Data Bulletin E-50 In PDF Format
\(Over 3 Mb\)](#)

[Click Here To View or Download the Nitronic 60 Product Data Bulletin E-60 In PDF Format
\(Over 4 Mb\)](#)

[Click Here To View or Download the Nickel-Based High Performance Alloy EC625 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel-Based High Performance Alloy EC22 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the High Performance Alloy A-286 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the High Performance Alloy TOOLWARE 718[®] Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel-Copper Alloy EC400 & ECR405 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel-Copper-Aluminum Alloy ECK500 Product Data](#)

Bulletin In PDF Format

[Click Here To View or Download the Nickel-Aluminum Bronze Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Superaustenitic 6% Mo Stainless Alloy 926 Mo Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel Alloy EC200/201 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel Alloy EC600 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel Base Alloy ECHX Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel Base Alloy EC276 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel-Iron-Chromium-Silicon Alloy EC330 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the Nickel-Iron-Chromium Alloy EC800/800H/800AT Alloy Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the 90/10 Copper-Nickel Alloy EC70600 Product Data Bulletin In PDF Format](#)

[Click Here To View or Download the 70/30 Copper-Nickel Alloy EC71500 Product Data Bulletin In PDF Format](#)

Send mail to bhynes@electralloy.com with questions or comments about this web site.

Last modified: August 04, 2003

ELECTRALLOY

a G. O. CARLSON Inc. Co.



Nickel-Based High Performance Alloy EC22 (UNS N06022)

Electralloy's EC22 is a solution strengthened, nickel-chromium-molybdenum high performance alloy providing excellent resistance to pitting, crevice corrosion and stress-corrosion cracking. EC22 also has excellent resistance in both reducing and oxidizing conditions.

Chemical Composition (Nominal Analysis, weight percent)

Carbon (max.)	0.015	Cobalt (max.)	2.50
Manganese (max.)	0.50	Sulfur (max.)	0.010
Silicon (max.)	0.08	Tungsten	2.50 / 3.50
Chromium	20.00 / 22.50	Iron	2.00 / 6.00
Molybdenum	12.50 / 14.50	Nickel	Balance
Vanadium (max.)	0.35	Phosphorus (max.)	0.020
Copper (max.)	0.50		

TYPICAL APPLICATIONS

The balance of low carbon, nickel, molybdenum, and chromium allows Electralloy's EC22 to be used in a variety of applications. EC22 is used in highly corrosive environments in petrochemical, pulp and paper, oil and gas, marine, and chemical processing industries.

EC22 specifications include the following:

ASTM B472
ASTM B564
NACE MR0175

Weld Wire – ANSI / AWS A5.14 / A5.14M – 97 (AWS Classification ERNiCrMo –10)

EC 22 is available in a variety of sizes and forms, including ingot, billet, bar, coil rod, and weld wire.

Nickel-Based High Performance Alloy EC22 (UNS N06022)

PHYSICAL PROPERTIES

Melting Temperature: 2475°F to 2550°F (1367°C to 1399°C)

Density: 0.314 lb./in.³ (8.69 gm/cm³)

Specific Heat: (@ 126°F) 0.099 Btu/lb./°F

Electrical Resistivity: (@ 75°F) 44.8 microhm-in.

Modulus of Elasticity (E)

Temperature		Tension	
°F	°C	10 ⁶ psi	10 ³ MPa
70	21	29.9	206
1800	982	21.1	145

Coefficient of Thermal Expansion

Temperature		
°F	°C	in./in./°F
75 to 200	24 to 94	6.9 x 10 ⁻⁶
75 to 800	24 to 427	7.4 x 10 ⁻⁶
75 to 1600	24 to 870	8.8 x 10 ⁻⁶

Thermal Conductivity

Temperature		
°F	°C	Btu/ft ² /ft./hr./°F
118	48	5.8
572	300	9
932	500	12.3

MECHANICAL PROPERTIES

Tensile Properties (2050°F / Water Quench)

	UTS (ksi)	.2% YS (ksi)	%EL	%RA	HARD. R _b
ASTM B574	100	45	45		
TYPICAL EC 22	108	53	63	75	86

HEAT TREATMENT

EC22 can be solution heat treated by heating to between 2025°F and 2100°F (1120°C - 1150°C) and cooled rapidly in water or air.

HOT WORKING

Recommended hot working temperature range for this alloy is 2200°F down to 1750°F (1205°C to 955°C). The recommended ingot breakdown temperature is 2200°F.

WELDING

EC22 can be readily welded using conventional methods such as gas-tungsten-arc (GTAW), gas metal arc (GMAW), and shielded metal arc (SMAW). Various resistance welding methods can also be used. EC22 does not need a post-weld heat treatment to restore corrosion resistance. Oxyacetylene welding should not be used because it causes carbon pick-up with resulting loss of corrosion resistance.

MACHINING

EC22 can be machined using conventional techniques and equipment similar to those used for 300 series austenitic stainless steels. Since this alloy work hardens, lower speeds are required. Either carbide or high-speed tooling is recommended. Heavy, constant feeds must be maintained to prevent glazing, which causes low tool life and breakage. Water based coolants can be used.

CORROSION RESISTANCE

Electralloy EC22 exhibits outstanding resistance to crevice corrosion, pitting, and stress-corrosion cracking. This alloy also has excellent resistance to both reducing and oxidizing conditions.

Typical results	CORROSION RATE (mils per year)
ASTM G28 METHOD A	18.96 mpy
ASTM G28 METHOD B	6.55 mpy